Filling the Fighter Gap

by
Major Justin DeMarco, USAF

The purpose of this paper is to suggest how the Air Force can mitigate the risk presented by the delays in fielding the F-35 Joint Strike Fighter by procuring a fleet of generation 4.5 fighter aircraft. The obstacles posed by the enormous cost of acquiring generation 5 fighter technology forced the Air Force cut the number of F-22 Raptors they had requested from an original requirement of 648 aircraft to just 381 and late last year Secretary of Defense Robert Gates announced that the F-22 program would be halted at only 187 total aircraft.[1] Recently announced delays to the F-35 Joint Strike Fighter program only serve to increase the Air Force's risk caused by the advanced age of the existing fleet. One potential solution to the Air Force's fighter problem is to purchase the US Navy's F/A-18 E/F Super Hornet multirole fighter because it is highly cost effective and meets multiple Air Force tactical aircraft requirements.

[1] Leo Shane III, "Gates Announces Major Cuts in Defense Budget," *Stars and Stripes* (April 7, 2009): 0 http://www.stripes.com/article.asp?article=61862&section=104 (accessed April 18, 2009).

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First and foremost, the F-18E/F presents a cost effective way to help the Air Force recapitalize their aging fighter fleet. The USAF initiated the development of the F-22 fighter in 1981 with the intent to purchase 648 aircraft for an estimated total cost of $99.1 billion.[2] While the cost per aircraft is listed at around $138 million, when you divide the total program cost by the number of aircraft delivered, the actual per aircraft cost comes out to about $339 million.[3] The decision to stop production of the F-22 was accompanied by the news of a $4.4 billion increase in a 5 year, 513 aircraft purchase of the F-35 Joint Strike Fighter. Since then, the F-35 has run into some problems of its own. Cost over runs prompted Gates to fire the program manager and may result in a violation of the Nunn-McCurdy Act which could cause the entire program to be re-bid. This would cause lengthy delays or derail the program entirely. Both Gates and Air Force Chief of Staff Norton Schwartz acknowledge that the F-35 is bearing the risk of America's air superiority advantage. Further delays in the program will only add to that risk. At the writing of this article, the proposed 2011 budget includes $10.7 billion for 43 F-35s. Of that number only 23 would

[2]Associated Press, "F-22 Program Timeline," *Raptor Stealth Fighter* (9-17-02): 0 http://www.f22fighter.com/timeline.htm (accessed April 17, 2009).

[3]Michael Fumento, "The Raptor Imperative," *The Washington Times* (March 1, 2009): 0 http://www.washingtontimes.com/news/2009/mar/01/f-22-raptor-imperative/ (accessed April 17, 2009).

go to the Air Force while the remainder would go to the Navy. [4] Further, the Air Force has announced the retirement of an additional 250 fighters including 112 F-16Cs, 135 F-15Cs and 3 A-10s to help pay for recapitalization of the fleet at an estimated savings of $350 million.[5] While this is a substantial sum of money, it won't buy very many F-35s. It is clear that with the retirement of the F-117 Stealth Fighter and the aging A-10 suffering wing cracks which grounded half of the 356 plane fleet in December 2008, the Air Force will have some challenges over the next several years meeting all of its fighter aircraft requirements.[6] After all, the F-22 was primarily designed as an air superiority fighter to replace the F-15C Eagle and 187 F-22s will not meet that requirement let alone cover the loss of the F-117. In addition, with the average age of the F-16 approaching 20 years it may be time to look for another option that would be cost effective and meet several near term and long term needs like purchasing an already existing, proven aircraft that has a very costly

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[4] Hoffman, Michael. "AF budget request calls for 48 new Reapers" (4 Feb 2010). http://www.airforcetimes.com/news/2010/02/airforce_2011_budget_020110w/

[5] Rolfson, Bruce. "Air Force Cutting its Fighter Fleet" *Air Force Times* (15 Feb 2010). http://www.airforcetimes.com/news/2010/02/airforce_retirement_021410w/

[6] Bruce Rolfson, "Wing Cracks Take Out Half of A-10 Fleet," *Air Force Times* (December 10, 2008): 0 http://www.airforcetimes.com/news/2008/12/airforce_a10_repairs_120608/ (accessed April 18, 2009).

Research/Development/Test and Evaluation (RDT&E) process that is already paid for.

The Super Hornet has been a model project since it's inception in the early 1990s. It has won several Department of Defense Acquisition Excellence awards and met all of its production milestones.[7] If we consider that the Air Force wanted 381 F-22s, but will only get 187, they are at least 194 aircraft shy of where they need to be. The retirement of the other 250 aircraft mentioned above will set the Air Force behind even further, approximately 444 aircraft short of current requirements. With that said, purchasing around that number of F/A-18s may be a good solution. If we look at some basic cost comparisons we can see that by 1994 the Air Force had spent $11.9 billion just on research and development for the F-22 without delivering a single aircraft.[8] In contrast, in the year 2000, the Navy paid just $8.9 billion for a 5 year contract to deliver 222 F/A-18 E/Fs.[9] Obviously, the F-22 has superior technology, but in a strained fiscal environment is the difference in technology worth the financial cost? The Air Force could purchase those 444 F/A-18E/Fs for a fraction of the cost of

[7] Boeing, "F/A-18 EF Super Hornet: Timeline," *Boeing Integrated Defense Systems* (April 17, 2009): 0 http://www.boeing.com/defense-space/military/fa18ef/fa18efmilestones.htm (accessed April 18, 2009).

[8] Associated Press, "F-22 Program Timeline," *Raptor Stealth Fighter* (9-17-02): 0 http://www.f22fighter.com/timeline.htm (accessed April 17, 2009).

[9] Boeing, "F/A-18 EF Super Hornet: Timeline," *Boeing Integrated Defense Systems* (April 17, 2009): 0 http://www.boeing.com/defense-space/military/fa18ef/fa18efmilestones.htm (accessed April 18, 2009).

that same number of F-35s and because the development process for the aircraft is complete with an open assembly line, the Air Force could start receiving those aircraft now, not several years down the road. This could replace the entire fleet of A-10s and most of the F-16Cs now scheduled for retirement. In addition, once the F-35 program gets off the ground, fewer of them will be required to complete the recapitalization of the fighter fleet and when that recapitalization is complete nearly all of the Air Force, Navy, and Marine Corps' tactical aircraft needs will be the same including the training, weapons, maintenance, and spare parts; saving all three services billions and preventing incidents like the highly publicized 2007 in flight break up of an F-15 that simply snapped in half on a training flight when the aging aircraft entered a steep turn.[10]

Another reason the Air Force should purchase the F/A-18 E/F is because is meets multiple Air Force fighter requirements. While the F/A-18 is by no means as capable as an F-22 or F-35, it is certainly as capable as the generation 4 F-16 as a multirole fighter performing both air-to-air and air interdiction roles very well. In addition, it is reasonably comparable to the A-10 in the close air support mission and is widely used by the US Marine

[10]Staff writer, "Aging Aircraft: USAF F-15 Fleet Grounded," *Defense Industry Daily* (30 March 2008): 0 http://www.defenseindustrydaily.com/aging-aircraft-usaf-f-15-fleet-grounded-04149/ (accessed April 18, 2009).

Corps in that capacity. Another mission set that the Navy has selected for the Super Hornet is electronic warfare. That mission has fallen strictly on the aging Navy and Marine E/A-6B Prowler since the Air Force retired their EF-111 Raven in the late 1990's with no replacement.[11] While Air Force crews have integrated with Navy squadrons to help in this essential mission, the Prowler is reaching the end of its service life. To solve this problem, the Navy engaged with Boeing in 2004 to modify the two seat F model Super Hornet into EF-18G Growler to inherit the Electronic Warfare mission.[12] The Navy has already ordered 57 Growlers and had the first aircraft delivered in June of 2008 for an average cost of $66 million per aircraft.[13] The idea that the USAF will maintain an asymmetric technological advantage over the rest of the world in all of these mission sets has already been trumped by the successful test flight of the Russian stealth T-50 in January 2010.[14] The T-50 is Russia's answer to the F-22 and according to Moscow it will be in service in the next five years. Without an asymmetric technical advantage, the USAF may need mass in addition to

[11] Fact Sheet, "General Dynamics EF-111A Raven," *National Museum of the US Air Force*: 0 http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=409 (accessed April 18, 2009).
[12] Staff Writer, "First EF-18G Growler Electronic Attack Fighter Delivered to the U.S. Navy," *Defense Update, International Online Defense Magazine*: 0 http://defense-update.com/newscast/0608/news/news1006_growler.htm (accessed April 18, 2009).
[13] Staff Writer, "First EF-18G Growler Electronic Attack Fighter Delivered to the U.S. Navy," *Defense Update, International Online Defense Magazine*: 0 http://defense-update.com/newscast/0608/news/news1006_growler.htm (accessed April 18, 2009).
[14] Associated Press. "Russia Unveils Stealth Fighter Intended to Match US F-22 Raptor" (29 Jan 10). http://www.foxnews.com/story/0,2933,584241,00.html

superior technology to remain the world's premier Air Force throughout the 21st century.

It is easy to see that a viable method of mitigating the Air Force's emerging near term and long term risk associated with the shortage of fighter aircraft is to procure additional generation 4.5 aircraft. The US Navy's F/A-18 E/F Super Hornet provides one possible solution because it is highly cost effective and meets multiple Air Force tactical aircraft requirements. It is clear that the Air Force needs new aircraft of all kinds with fighters being some of the most costly to develop and deliver. While 5th generation aircraft like the F-22 and F-35 offer unmatched capabilities, the bottom line is that they are simply too expensive to be a viable solution to the Air Force's fighter problem when the service is in such dire need of several new weapons systems. A highly capable, combat proven, generation 4.5 aircraft like the Super Hornet, may be the perfect choice to bridge the next generation fighter gap.

Major Justin D. DeMarco is a staff officer in the Special Operations & Personnel Recovery Division at Headquarter, US Air Force in the Pentagon. He is a 2009 graduate of the US Army's Command & General Staff College at Fort Leavenworth, KS. The views & opinions expressed here are solely those of the author and may not represent the policies of the USAF or the Department of Defense.

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